



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,381	07/09/2003	Takeshi Nishiuchi	000593B	1378
23850	7590	06/15/2006	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			BUEKER, RICHARD R	
1725 K STREET, NW			ART UNIT	
SUITE 1000			PAPER NUMBER	
WASHINGTON, DC 20006			1763	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

4

Office Action Summary	Application No.	Applicant(s)	
	10/615,381	NISHIUCHI ET AL.	
	Examiner	Art Unit	
	Richard Bueker	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14,15 and 21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14,15 and 21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1763

Claims 14, 15 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 21, lines 3 and 4, the phrase "the wire-shaped vapor-depositing material" lacks proper antecedent basis and is therefore indefinite, and it should be changed to "a wire-shaped vapor-depositing material". In claim 21, lines 10-12, the phrases "the direction of winding" and "the direction of feeding" lack proper antecedent basis and are indefinite, and should be changed to "a direction of winding" and "a direction of feeding". The wire on applicants' reel is wound in the form of a helix, and thus it is not wound in a single direction as implied by claim 21 as amended. Also, the wire that is fed to applicants' heating crucible is fed along a path that includes a plurality of directions and is not fed in a single direction as implied by claim 21 as amended.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steube (3,926,147) taken in view of Satoh (JP 60-92466).

Steube (see Fig. 4 and col. 5, lines 16-59, for example) discloses a vacuum evaporation coating apparatus comprising a treating chamber connected to an evacuating system, wherein a heater for melting and evaporating a wire is

Art Unit: 1763

disposed in the treating chamber. The wire can be aluminum wire (col. 4, lines 61-65). A rotatable cage shaped work retaining member is disposed in the treating chamber as recited in newly amended claim 21. A supply of the wire, wound around a feed reel, is included in the apparatus. The feed reel is horizontally disposed (see element 120 of Fig. 4).

Regarding “the direction of winding”, it is noted that Steube’s wire 120, as illustrated in Fig. 4, is wound in a first course or layer, from right to left in Fig. 4, and then wound in a second course or layer on top of the first course, from left to right. In both instances (i.e. in both of the illustrated courses or layers) the direction of winding (i.e. from left to right or from right to left) is in a horizontal direction. Fig. 4 of Steube also illustrates that the direction of feeding of the wire to the melting heater is vertical. Therefore, in the case of Fig. 4 of Steube, a direction of winding of the wire on the reel is perpendicular to a direction of feeding of the wire to the melting heater as claimed by applicants.

Further regarding “the direction of winding” and “the direction of feeding” recited in claim 21, it is noted also that in a helical winding path such as Steube’s wire 120, “the direction of winding” can also be interpreted to refer to the any of the directions that are tangent to the winding, which includes vertical directions, horizontal directions and all directions in-between. Also, Steube’s wire feeding path includes a curve that includes plural directions, including vertical, horizontal, and all directions in-between. From this also it can be seen that Steube’s wire winding path includes directions that are perpendicular to directions of the wire feeding path.

Art Unit: 1763

Steube does not discuss the gas content of his wire.

Satoh (see the English translation) teaches that an aluminum wire that is conventionally used as a source material for vacuum evaporation coating typically or inherently contains hydrogen. Satoh teaches that it is desirable to reduce the amount of hydrogen in the aluminum wire prior to the vapor deposition process, because this will improve the quality of the deposited aluminum coating. It is noted also, however, that Satoh also makes clear that an aluminum coating can successfully be deposited by using an aluminum wire of unreduced hydrogen content, although the resultant coating is of lesser quality. It would have been obvious to use the type of hydrogen containing aluminum wire described by Satoh as the aluminum wire in Steube's apparatus, with either a reduced hydrogen content as preferred by Satoh, or with an unreduced hydrogen content as not preferred by Satoh, because Satoh makes clear that it was known in the prior art that an aluminum coating could successfully be deposited on a work-piece by using an aluminum wire that contains hydrogen. Regarding the use of a non-preferred embodiment, see *In re Boe*, 148 USPQ 507. It is also noted that the phrase "a predetermined amount" added to claim 21 does not place any requirements on the amount of gas contained in the wire.

Claim 14, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steube (3,926,147) taken in view of Satoh (JP 60-92466) for the reasons discussed above, and taken in further view of Welsh (3,097,113). Welsh is cited in this rejection for the purpose of providing another example from the prior art of a wire feeding direction that may be considered to be

Art Unit: 1763

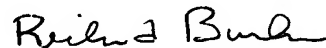
perpendicular to a wire winding direction on a feed reel. See for example, Fig. 1 of Welsh. Welsh (see col. 4, lines 29-36, for example) teaches that his feeding mechanism desirably facilitates vaporization of aluminum and increases the life of the boat, and for those reason it would have been obvious to use Welsh's wire feeding mechanism in the apparatus of Steube.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Richard Bueker
Primary Examiner
Art Unit 1763